

5 What is claimed is:

1. An extrudate comprising a high surface area material and at least one metal ion adsorbed onto the high surface area material.
2. The extrudate of claim 1, wherein at least one of the high surface area material and
10 the metal ion is capable of binding at least one compound selected from the group consisting of gaseous compounds, odorous compound, and combinations thereof.
3. The composition of claim 1, wherein the high surface area material comprises a surface area of at least about 200 square meters/gram.
- 15 4. The composition of claim 3, wherein the high surface area material comprises a surface area of at least about 500 square meters/gram.
5. The composition of claim 4, wherein the high surface area material comprises a
20 surface area of at least about 800 square meters/gram.
6. The composition of claim 1, wherein the high surface area material comprises a nanoparticle.
- 25 7. The composition of claim 6, wherein the nanoparticle comprises a diameter of less than 500 nanometers.
8. The composition of claim 6, wherein the nanoparticle comprises a compound selected from the group consisting of silica, alumina, magnesium oxide, titanium

- 5 dioxide, iron oxide, gold, zinc oxide, copper oxide, polystyrene, and combinations thereof.
9. The composition of claim 1, wherein the at least one metal ion comprises an ion selected from the group consisting of copper ion, silver ion, gold ion, permanganate ion, chlorite ion, persulfate ion, iron ion, and combinations thereof.
- 10 ion, chlorite ion, persulfate ion, iron ion, and combinations thereof.
10. A breathable film comprising a thermoplastic polymer, a filler and a nanoparticle, wherein said film has a WVTR of at least 300 g/m²/day.
- 15 11. The film of claim 10 wherein said polymer is an olefin.
12. The film of claim 11, wherein the composition comprises a nanoparticle selected from the group consisting of silica, alumina, titanium dioxide, gold, zinc oxide, polystyrene, and combinations thereof.
- 20 13. The film of claim 12, wherein the nanoparticle comprises a negative first Zeta Potential of about -1 to -50 millivolts.
14. The film of claim 13, wherein the nanoparticle comprises a negative first Zeta Potential of about -1 to -20 millivolts.
- 25 15. The film of claim 13, further comprising a second higher Zeta Potential after adsorption of the at least one metal ion onto the nanoparticle.

- 5 16. The film of claim 12, wherein the nanoparticle comprises a diameter of less than
500 nanometers.
17. The film of claim 13, wherein the film comprises a nanoparticle selected from the
group consisting of silica, titanium dioxide, gold, zinc oxide, polystyrene, and
10 combinations thereof.
18. A personal care product outer cover comprising a film layer having an odor
absorbing nanoparticle and having a WVTR above about 500 g/m²/day.
- 15 19. The outer cover of claim 18 further comprising a nonwoven fabric laminated to said
film.
20. The outer cover of claim 18 which is present in a diaper.
- 20 21. The outer cover of claim 18 which is present in an adult incontinence product.
22. A material for packaging and storing fruit to inhibit ripening by removing ethylene
gas, comprising permanganate ion modified alumina nanoparticles which are
added to an extrudate selected from the group consisting of breathable films and
25 multilayer laminates of films and nonwoven fabrics.
23. A pultruded article comprising a base material and a resin containing filler having
on its surface, odor removing high surface area particles.
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- 5 24. The method of making an extrudate having high surface area particles comprising
the step of mixing nanoparticles, metal ions and filler material prior to coating said
filler with a fatty acid.
- 10 25. The method of making an extrudate having high surface area particles comprising
the step of mixing nanoparticles, metal ions and filler material, after coating said
filler with a fatty acid.